



## March 2009 News from UC Davis

# POSTHARVEST TECHNOLOGY

### Research & Information Center

#### QUICK LINKS

- [News from the Center](#)
- [What's New on our Website](#)
- [Postharvest Specialists' Activities](#)
- [Postharvest Workshops @ UC Davis](#)
- [Featured Postharvest Publication](#)
- [Postharvest Calendar](#)
- [Ask the Produce Docs](#)

#### News from the Center

##### **Register Soon! Antalya, Turkey: Postharvest Technology Short Course for Enterprises in Developing & Emerging Economies**

This unique short course is being presented April 13-17, 2009 in Antalya, Turkey, by instructors from the University of California, Davis, and Akdeniz University in Antalya, Turkey. The course will be limited to 25 participants from countries with developing or emerging economies. The course will be held at the Dedeman Antalya Resort Hotel & Convention Center, a five-star resort, immediately following the International Postharvest Symposium (April 8-12). For a complete agenda, more information about the course instructors, or to register, please see:

<http://ucanr.org/antalyashortcourse>



The Dedeman Antalya Resort Hotel & Convention Center.  
Register [on-line](#).



Register [on-line](#) for the 2009 Fruit Ripening & Ethylene Management Workshop

##### **15<sup>th</sup> Fruit Ripening & Ethylene Management Workshop**

We invite produce managers, shippers, and others interested in managing the quality of fresh produce to join us on April 28 – 29, 2009 for an expanded two-day [Fruit Ripening & Ethylene Management](#) workshop on the UC Davis campus, offering more interactive and hands-on opportunities than ever before. The workshop will focus on how to increase profits by delivering ready-to-eat, delicious fruits and fruit-vegetables to consumers. It provides participants with cutting edge technical information and provides familiarity with commercially available tools that they can use to manage fruit ripening and control the effects of ethylene. The workshop is taught by university researchers and industry professionals, providing a balance of the latest research and practical experience

##### **Three Walnut Dehydrator Workshops**

Three one-day sessions will be held in Tulare (4/7), Stockton (4/8), and Yuba City (4/9). The instructors will include Chris Sinclair from Woodside Electronics, Jim Thompson from the UC Davis Bio & Ag Engineering Department, Don Osias from Applied Instrumentation, and Linda Harris from the UC Davis Dept. of Food Science & Technology. For more information see: <http://ucanr.org/walnutdehydratorworkshops>

##### **[31<sup>st</sup> Postharvest Technology Short Course](#)**

We're looking forward with great excitement to our annual 2-week short course of the UC Davis Postharvest Technology Center that will be held on June 15-26, 2009. The course will provide participants with a

comprehensive overview of current and emerging postharvest technologies. The optional second week's field tour offers a wide variety of postharvest handling operations throughout California, and will provide course participants with an opportunity to see theory learned in the first week of the short course put into practice.

### **StePac Excellence in Post-harvest Education Foundation**

We're very proud that [StePac](#) has included an opportunity to attend the UC Davis Postharvest Technology Short Course in their 2009 Post-harvest Education Foundation offerings. We look forward to meeting the recipient of this grant.

### **Fresh-cut Workshop Registrations Now Open**

We're pleased to announce the opening of registrations for the [14<sup>th</sup> Annual Fresh-Cut Products: Maintaining Quality & Safety Workshop](#). This renowned workshop is coordinated by Dr. Marita Cantwell and is designed for individuals from the fresh and processed fruit and vegetable industries. Food scientists, food engineers, quality assurance personnel and new product development staff will find it of interest. Dr. Cantwell has been working hard as she developed her 2009 agenda to make sure that the most current information and most knowledgeable speakers are included.

### **Thanks to our Endowment Contributor**

We appreciate the company listed below, who recently contributed very generously to the [Postharvest Program Endowment](#) fund.

[ABSOGER SAS](#)

The interest from this fund continues to make a difference in our Web site. Thanks for considering making a contribution today!

[\[Back to Top\]](#)

## **What's New on our Website this Month**

### **Additions to the Postharvest Library**

New publication on the flavor acceptability during maturation of naval oranges:

- [Determinants of Flavor Acceptability during the Maturation of Navel Oranges](#). Obenland, David, Sue Collin, Bruce Mackey, James Sievert, Kent Fjeld, Mary Lu Arpaia. *Postharvest Biology and Technology* 52:156-163 (2009)

We have added to our informative section of recommendations and information on [Produce Irradiation](#) a link to an article on [Food Irradiation: A Guide for Consumers, Policymakers and the Media](#), a science policy paper by the Grocery Manufacturers Association.

### **New Produce Facts in French**

This month we express our appreciation to Djamila Rekika for translating the following Produce Facts into French:

- [Alstromeria](#), Lys du Pérou
- [Bouvardia](#), Bouvardie

[\[Back to Top\]](#)

## **Postharvest Specialists' Activities**

### **Produce Safety Summit**

Dr. Jim Gorny, executive director of the UC Davis Postharvest Technology Research & Information Center, was an invited participant in the *Produce Safety Summit: Implications of Mandatory Safety Standards* which occurred on March 5, 2009 at the Woodrow Wilson International Center for Scholars in Washington, DC. The Summit, organized by the Produce Safety Project, an initiative of The Pew Charitable Trusts at Georgetown University, provided an opportunity for select food safety policy experts from business, government, academia, and consumer groups to explore potential implications and outcomes of implementing mandatory Federal produce

safety standards. The meeting did not focus on potential standards, but on the acceptability and enforceability of produce food safety standards if and when they are mandated.

### **Syngenta Seeds Helps UC Davis Graduate Student Pursue a Better Watermelon**

One of Diane Barrett's graduate students, Jennifer Shiu, has been awarded a [graduate student fellowship](#) by Syngenta Seeds. The gift will support Shiu on her two-year graduate study program to screen different watermelon varieties and develop methods to quantify the crispness and juiciness of each.

[\[Back to Top\]](#)

## **Postharvest Workshops @ UC Davis**

### **2009 Postharvest Workshops**

We are now accepting registrations for the following UC Davis Postharvest Technology Research & Information Center Courses:

- [Fresh Produce Marketing Strategies Short Course](#). March 24-26, 2009. UC Davis campus.
- [Fruit Ripening & Ethylene Management Workshop](#). April 28-29, 2009. UC Davis campus.
- [Postharvest Technology Short Course](#). June 15-26, 2009. UC Davis campus.
- [Fresh-cut Products: Maintaining Quality & Safety](#). September 22-24, 2009. UC Davis campus.

[\[Back to Top\]](#)

## **Featured Postharvest Publication**

### **“Fruit Ripening and Ethylene Management” Publication Featured**

This month we are again offering a 20% discount for customers who order the “[Fruit Ripening and Ethylene Management](#)” (2008) edited by James F. Thompson, publication for their library. Please use our [Order Form](#), and be sure to note “*March Discount*” on the order form to receive your discount.

[\[Back to Top\]](#)

## **Postharvest Calendar: Upcoming Conferences, Courses and Workshops**

- March 24-26, 2009. [Fresh Produce Marketing Strategies Short Course](#). UC Davis campus.
- March 26 – April 1, 2009. [III International Course on Postharvest Technology and Minimal Processing of Fruits and Vegetables](#). Cartagena, Spain.
- April 4-7, 2009. [10<sup>th</sup> Controlled and Modified Atmosphere Research Conference](#). Antalya, Turkey.
- April 8-12, 2009. [6<sup>th</sup> International Postharvest Symposium](#). Antalya, Turkey.
- April 13-17, 2009. [Postharvest Technology Short Course for Enterprises in Developing & Emerging Economies](#). Antalya, Turkey
- April 14-16, 2009. **Center for Advanced Processing and Packaging Studies (CAPPS)**. UC Davis campus.
- April 28-29, 2009. [15<sup>th</sup> Annual Fruit Ripening & Ethylene Management Workshop](#). UC Davis campus.
- June 8-11, 2009. [7<sup>th</sup> International Peach Symposium](#). Lleida, Spain
- June 15-26, 2009. [31<sup>st</sup> Annual Postharvest Technology Short Course](#). UC Davis campus.
- June 21-25, 2009. [The 8th International Symposium on the Plant Hormone Ethylene](#) at Cornell University in Ithaca, New York.
- July 20-23, 2009. [1<sup>st</sup> International Conference on Postharvest & Quality Management of Horticultural Products of Interest in the Tropics](#). San José, Costa Rica
- September 20-24, 2009. [11<sup>th</sup> Symposium on Plant Bioregulators in Fruit Production](#). Bologna, Italy.
- September 22-24, 2009. [Fresh-cut Products: Maintaining Quality & Safety](#). UC Davis campus.
- September 29-October 3, 2009. [Fourth International Symposium on Fig](#). Meknès, Morocco.
- November 15-19, 2009. **Australasian Postharvest and Managing Quality in Chains Conference: “Postharvest Pacifica-Pathways to Quality”** Napier War Memorial Conference Centre, Napier.
- August 22-27, 2010. [28<sup>th</sup> International Horticultural Congress](#). Lisbon, Portugal

## Ask the Produce Docs

**Q.** I need some quick tips on refrigeration, care & handling etc. In particular, can you provide some guidelines for the following statement: if strawberries are left out of refrigeration for X hours, they will deteriorate at a rate of x? (J.G.)

**A.** The key to answering this question is understanding that as temperatures rise so does the produce metabolic activity (including aging reactions) and this metabolic activity can be quantified by measuring a produce items' respiration rate (i.e. the rate of carbon dioxide production by a commodity). A helpful resource is our Produce Facts which lists the respiration rate of produce items at various temperatures: [Recommendations for Maintaining Postharvest Quality of Strawberry](#).

From the Strawberry Produce Fact:

Temperature	0°C (32°F)	10°C (50°F)	20°C (68°F)
ml CO <sub>2</sub> /kg·hr	6 - 10	5 - 50	50 - 100

From this table you can see that if you store berries at room temperature (68°F) they have a respiration that is 10 times greater (10 vs 100) than if you stored them at 32°F. That means that strawberries are deteriorating (at 68°F) at rate 10 times faster than if they were held at 32°F.

Unfortunately your question as posed can't be answered. The best equivalent statement I can propose would state that "Strawberries held at room temperature deteriorate at a rate 10X faster than if held in ideal conditions at 32°F). Also, decay incidence and severity is 10 times as fast at 68°F as 32°F.

The shelf-life clock starts ticking the second a strawberry is plucked from the mother plant. How long, in terms of total time, a strawberry has for acceptable shelf-life is dependent on many factors (fruit maturity, variety, growing conditions, etc.). How fast the shelf-life clock clicks down to zero is influenced by the storage temperature. The warmer the storage temperature the faster the shelf-life clock clicks down to zero. In case of strawberries that rate is 10X times faster at room temperature compared to 32°F. --[Jim Gorny](#)

This publication is produced monthly by the UC Davis Postharvest Technology Research & Information Center. For more information visit our [website](#) or [e-mail](#) us. If you or a colleague wish to receive this free monthly E-Newsletter, click [here](#) to subscribe. If you do not wish to receive this publication, please click on "reply" to this e-mail and type "unsubscribe" in the subject line.

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